

## REMARKS

In this Response, claims 26, 34 and 35 are presented for examination.

### Rejections Under 35 U.S.C. § 103

In the Office Action claims 26 and 33-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindoff et al. (US 6,101,224), further in view of Vilcocq et al. (US 2004/0041638) and Hasson et al. (US 2003/0123566). This rejection is respectfully traversed and reconsideration is respectfully requested.

Amended claim 26 has been amended to include the features of claim 36, which has been cancelled, and is now directed to a communication device that includes, among other features, *said optimization criteria are related to an input to said pre-emphasis filter and are related to an input to a voltage controlled oscillator of the fractional-N phase locked loop unit*. In the rejection of claim 36, the Examiner asserts that Vilcocq discloses that “the optimization criteria are related to an input to the filter and an output to the voltage controlled oscillator.” (Office Action, page 5, emphasis added) However, the Examiner then contends that “one of ordinary skill in the art would readily recognize that it is obvious and/or a matter of design choice for the coefficient adaptation of the pre-emphasis filter to be obtained from the input to the VCO rather than the output of the VCO, as taught by Vilcocq, wherein when the optimization criteria is based on the output of the VCO then the optimization process would be more accurate than when only the input to the VCO is considered for adapting the coefficients of the pre-emphasis filter. But on the other hand, when the optimization criteria is based on only the input to the VCO then the hardware complexity is reduced due to computation simplicity. Therefore, it would have been obvious to one of ordinary skill in the art to improve the system performance of the digital synthesizer by adapting the transfer function of the pre-emphasis filter to the linearized response of the phase locked loop variations for the reason stated above.”

In other words, although the Examiner concedes that Vilcocq fails to disclose optimization criteria are related ... to an input to a voltage controlled oscillator of the fractional-N phase locked loop unit, as now required in amended claim 26, it is

nevertheless asserted that it would have been obvious to use Villocoq's optimization criteria in a manner which is different from that which is shown or described.

As pointed out in MPEP 2144.03, "official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances." "Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known." "It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are **not capable of instant and unquestionable demonstration as being well-known.**" "The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge." (emphasis added)

In the present case, applicants respectfully submit that there is utterly nothing in the Examiner's assertion that hardware complexity is reduced due to computational simplicity that would be capable of instant and unquestionable demonstration as being well known. Inasmuch as the Examiner has come to the conclusion that applicants' hardware complexity is reduced (compared to Villocoq) due to computational simplicity,, Applicants respectfully submit that in order for this rejection to be proper, specific factual findings predicated on sound technical and scientific reasoning in support of this conclusion must be provided. Specifically, Applicants respectfully submit that in order for the rejection to be proper, the Examiner must, at the very least, show how that use of Villocoq's criteria in an unintended manner (that is to say in the manner as claimed in amended claim 26) would result in computational simplicity, and that such criteria are even suitable for use in the unintended manner.

While the assertions by Examiner may or may not be true, nothing in Villocoq or in applicants' disclosure suggest this conclusion. As noted above, Villocoq's optimization criteria relate to the output to the voltage controlled oscillator while applicants' optimization criteria relates to the input to the voltage controlled oscillator. Nothing in Villocoq or applicants' disclosure suggest that one or the other is more accurate, more simplistic, requires more complex hardware or that optimization criteria applying to the inputs and outputs of the voltage controlled oscillator are simply

interchangeable. Accordingly, neither Vilcocq nor applicants' disclosure suggest that one or the other's optimization criteria are simply a matter of "design choice."

In view of the foregoing, applicants respectfully request that the Examiner either provide specific factual findings predicated on sound technical and scientific reasoning to support his conclusions regarding the accuracy, simplicity and the requirement of more complex hardware between Vilcocq's disclosure and applicants' disclosure that would lead one skilled in the art to deem applicants' optimization a matter of design choice, or withdraw the rejection.

For at least these reasons it is respectfully submitted that claim 26 is in condition for allowance. Claims 34 and 35 depend on claim 26 and therefore, they are allowable for at least the reasons claim 26 is allowable.

### **Conclusion**

For these reasons, a Notice of Allowance is respectfully requested. If the Examiner has any questions concerning the present paper, the Examiner is kindly requested to contact the undersigned at (503) 796-2997. If any fees are due in connection with filing this paper, the Commissioner is authorized to charge Deposit Account No. 500393.

Respectfully submitted,  
Schwabe, Williamson & Wyatt, P.C.

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/Kevin T. LeMond/

Kevin T. LeMond

Reg. No.: 35,933

Pacwest Center, Suite 1600  
1211 SW Fifth Avenue  
Portland, Oregon 97204  
Telephone: 503-222-9981